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Relativistic Heavy Ion Collider
Magnet Division Procedure

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Class: Quality Assurance
Title: Discrepancy Reporting Procedure

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- ES&H Review: Signature on File

REVISION RECORD

Rev. No.	Date	Page	Subject	Approval	QA	ES&H
A	6/2/93		Initial Release.			
B	1/6/94		Changes per ECN #MG00577.			
C	8/12/94		Changes per ECN #MG00763.			

1. Scope:

This procedure establishes an overview of the Magnet Divisions Discrepancy Reporting System (DRS) and describes the general instruction to be followed by the cognizant technician, plant manager and the Manufacturing Documentation Center.

The DRS is a disciplined approach for the collection and reporting of magnet discrepancies throughout RHIC production. It provides for information feedback and assures the causes of nonconformances are clearly identified and corresponding corrective actions are effected in a timely manner.

Definition of Discrepancy: A Discrepancy/Nonconformance is a condition of any article, material or service in which one or more of its characteristics do not conform to requirements specified in Magnet Assembly Procedures; Magnet Specifications, drawings or other approved product descriptions. This includes failures, nonconformance deficiencies, defects and malfunctions.

2. Applicable Documents:

RHIC-QAP-302 Nonconforming Material Control

3. Requirements:

The Magnet Division's Quality Program shall provide for the collection, tracking and analysis of nonconformances as a result of inspection/test and rework/repair of magnets. This shall be accomplished through the use of a Discrepancy Report (DR) (Exhibit 1). Any individual encountering a discrepancy during the production of a magnet may originate a Magnet Discrepancy Report.

The Discrepancy Report will be used for all discrepancies encountered during RHIC magnet production.

3.1 General Procedure

If a discrepancy is discovered during any part of magnet assembly, a Discrepancy Report is to be completed immediately as follows:

The following steps are keyed to the sample Discrepancy Report form included as Exhibit 1.

A. The person who discovered the discrepancy, within 24 hours of discovering it, shall:

A1. Part No.: Enter part number as per drawing.

A2. Part Name: Enter the name of the part as it appears on the engineering drawing.

A3. Quantity: Enter the quantity of discrepant items.

A4. Serial No./Lot No.: Enter the serial number and/or lot number of the discrepant item. If the discrepant condition affects multiple quantities, all affected serial numbers and/or lot numbers shall be listed.

A5. Traveler No.: Enter the traveler number, "MDC _____", and the revision letter.

A6. Traveler OP No.: Enter the operation number from the traveler, of the operation being performed at the time the discrepancy was encountered.

A7. Operation: Enter the description of the operation being performed.

A8. Type of Problem: Enter a check mark in the appropriate place for the type of problem encountered (i.e., mechanical, electrical, other).

A9. Prepared By:/Life No.:/Date: Initiator signature and life number; and date discrepancy discovered.

A10. Description: Enter a brief, concise description of the discrepancy encountered. State the actual results that describes the discrepancy, and then state what the correct condition should have been. (i.e., "Cable tension is 50 lbs., should be 48 lbs. max.).
If more than one discrepant condition is encountered, number them sequentially.

A11. Sketch: Provide a sketch or a reduced, marked-up portion of a print as necessary to accurately convey the discrepancy.

After the initiator has completed Sections A1 thru A11, then he/she shall notify the Cognizant Technician responsible for the section of magnet assembly where the discrepancy was discovered.

NOTE: In most cases the cognizant technician and the initiator are one in the same.

B. The Cognizant Technician shall:

B1. Cognizant Technician/Name & Life No., Date: Enter signature, life number and date indicating concurrence with the information in Section A. The cognizant technician shall forward the report to his/her plant manager.

C. The Plant Manager (or designee) upon receiving the DR shall:

C1. DR No: Assign a sequential log number to the Discrepancy Report.

NOTE: The Plant Manager is responsible to maintain a sequentially numbered discrepancy log book which is distributed and controlled by the MDC.

1. Notify the MDC and the cognizant engineer that a DR has been written.
2. Retain a copy of the DR.
3. Forward the original DR form to the MDC.
4. Add a red copy of the DR to the traveler. The red copy should remain visible through the transparent traveler pouch where practical.
5. Write on the traveler, in the blank line directly below the operation at which the DR was written, in the operation description section: "DR No. X-XXXX", where "X-XXXX" represents the assigned log number. The operation number shall be one (1) more than the previous operation, i.e., if the discrepancy occurred at operation number 40, the blank line directly below it would become operation number 41, DR No. X-XXXX.

The MDC is responsible for all information in Section C of Exhibit 1 and shall:

C1. DR No.: Make sure a sequential DR number has been assigned.

C2. Preliminary/Action Required/Final: Place a check mark next to preliminary, indicating a preliminary, unresolved report.

C3. CE/CS: Enter the name of the Cognizant Engineer.

C4. Distribution By:/Date:: Enter signature and date of distribution.

Upon completion of Sections C1 thru C4, the Manufacturing Documentation Center (MDC) shall:

1. Make preliminary distribution of the Discrepancy Report. The original documentation goes to the Cognizant Engineer.

NOTE: Preliminary distribution will at a minimum, include the distribution listed on the bottom of the DR.

2. Ensure that DR number has been annotated in the proper section of the magnet traveler.

   NOTE: If the form numbers are pre-assigned, then the technician may have already put the DR number on the traveler. However, the MDC has full responsibility to insure the DR number is in the traveler.

3. Follow up on the distribution to make sure the Cognizant Engineer is aware of the Discrepancy Report and his mandatory response/investigation.

D. The Cognizant Engineer or his designee for the area in which the discrepancy occurred, shall within two working days initiate an investigation into the problem. Within three working days a decision must be made as to the severity of the discrepancy and whether production needs to be halted as a result of. This decision is the Cognizant Engineer's and he may and should consult with the Division Section Head prior to stopping production. In most cases, production should continue while the investigation is going on.

Within ten working days the Cognizant Engineer is responsible for resolving the discrepancy, implementing corrective action and completing Section D of Exhibit 1.

NOTE: An extension for investigation/resolution may be granted by the Division Section Head. If an extension is granted the DR will be initialed by the Section Head and the Cognizant Engineer. The Cognizant Engineer is then responsible for a new date and notifying the MDC.

The Cognizant Engineer in conjunction with the DQAR, shall:

D1. Classification: Check off the appropriate classification (Type I or Type II) based on definitions given in RHIC-QAP-302, paragraph 6.4.1, 6.4.2.

   NOTE: All Type I discrepancies require a Deviation and Waiver Request (DWR) form, RHIC-QF-020 per RHIC-QAP-302.

D2. Disposition: Review all information regarding the discrepancy and enter one of the following dispositions: Use As Is (UAI), Rework (RWK), Repair (RPR), Scrap (SCP).

NOTE: In special cases, the following special dispositions may be used:

Meets Requirements: This disposition can be used when an item's conformance to drawings/specifications cannot be fully assessed due to a lack of sufficient information and subsequently the information is received, i.e., a drawing, specification or procedure is in error and an ECN is generated to correct the error; a procedure does not exist to perform an inspection or test and the procedure is subsequently generated. The words "meets requirements" shall be written in the disposition section of the DR. This shall void out the reaction.

Invalid Rejection: This disposition can be used when an investigation reveals that the allegedly discrepant item has been erroneously rejected (i.e., the item meets the requirements of the drawing/specification/procedure 100%). The words "invalid rejection" shall be written in the disposition section of the DR. This shall void out the rejection.

D3. CE: Enter initials next to each disposition rendered.

D4. Instructions: Enter any special instructions for the implementation of the disposition, i.e., special rework or repair instructions. The instructions shall be sequentially numbered, and written in a concise procedural format.

D5. Reason(s) for Discrepancy: Enter a concise explanation for the root cause of the discrepancy. Avoid ambiguous phrases, i.e., "operator error" "wrong part" "cause unknown".

D6. Corrective Action: Enter the action taken to prevent a re-occurrence of the discrepancy.

D7. Report Reviewed by CE:/Date: Enter signature and date, upon completeness of the entire DR, indicating concurrence with all results/conclusions.

The Cognizant Engineer is then responsible to forward the completed original DR to the DQAR.

E. The DQAR shall review the completed DR and do the following:

E1. DQAR: Enter initials next to each decision rendered.

E2. DQAR: Enter signature and date indicating concurrence with disposition and results/conclusions.

The DQAR is then responsible to return the dispositioned original DR to the Manufacturing Documentation Center. The Manufacturing Documentation Center shall then do the following:

1. Review the form for completeness and consistency.

   NOTE: The MDC will not review for technical completeness.

2. C2 Preliminary/Action Required/Final: Review Sections D2 and D4 of Exhibit I, Disposition and Instructions.

   A. If the disposition is USE AS IS, MEETS REQUIREMENTS, or INVALID REJECTION, and does not require further action:

      1. Enter "N/A" next to action required, and the date next to final.

      2. Return the original final DR to the Plant Manager.

      3. Make a final distribution.

      4. Maintain a file copy of the DR.

   B. If the disposition if REWORK or REPAIR, or another disposition requiring further action (i.e., rejected part dispositioned SCRAP and instructions included to mark it as such):

      1. Enter the date next to action required.

      2. Return the original dispositioned DR to the Plant Manager with an Action Required cover sheet, Exhibit II.

F. The Plant Manager (or designee) shall review Section C2 of the dispositioned DR to verify if action is required.

1. Upon receiving a final report which does not require further action, the Plant Manager (or designee) shall:

   a. Place the final original DR with the magnet traveler.

   b. Sign the traveler "operation" for the DR disposition.

2. Upon receiving a DR requiring further action, the Plant Manager (or designee) shall:

   a. Complete the required action in accordance with the disposition and instructions.

   b. F1. Name/Life No./Date: Enter signature, life number and date of completion of work.

   c. C2. Preliminary/Action Required/Final: Shall enter the date next to final, indicating a resolved report.

   d. Place the original completed DR with the magnet traveler.

   e. Sign the traveler "operation" for the DR disposition.

   f. Send a copy of the DR to the MDC.

The MDC upon receiving the completed copy, shall:

1. Verify that Section F1 has been completed.

2. Make a final distribution.

3. Maintain a file copy of the DR.

As management of the Discrepancy Reporting System, Quality Assurance and the Manufacturing Documentation Center will publish a monthly report showing all DRs. This report will show at a minimum all completed DRs, late responses, and all remaining open issues. This report will be distributed to the division section head, plant manager and all cognizant engineers who took part in the months activity.

This report and the distribution of, will ensure that the Magnet Division has a "Closed Loop" Discrepancy Reporting/Corrective Action System.

DR No. (C1)
Preliminary (C2)
Action Required (C2)
Final (C2)

Exhibit I

Magnet Discrepancy Report

Part No: (A1)		*Rev:*	*Traveler No.:* (A5)	*Rev:*
Part Name: (A2)			*Traveler OP No.:* (A6)	
Qty: (A3)	*Ser. No./Lot No.:* (A4)		*Operation:* (A7)	
Prepared By: (A9)		*Life No.:*	*Date:*	
Cognizant Technician: (B1)		*Life No.:*	*Date:*	
Type of Problem: (Check) *Mechanical* ☐	*Electrical* ☐	*Other* ☐	(A8)	

Description *Continue on reverse side if required*	*Disposition* *RWK, RPR, UAI, SCP*	*CE*	*DQAR*
(A10)	(D2)	(D3)	(E1)

Classification: *Type I* ☐ *Type II* ☐ (D1)

Instructions: *Continue on reverse side if required*	*Name*	*Life #*	*Date*
(D4)	(F1)		

Reason for Discrepancy: (D5)

Corrective Action: (D6)

Report reviewed by CE (D7) *Date*

DQAR (E2) *Date*

Distribution:
Magnet Traveler
Section Head, Electrical Systems
Section Head, Production Engineering
DQAR
Division Head
Cognizant Engineer (C3)

Distributed by (C4)
Date:

Magnet Discrepancy Report
(Continuation)

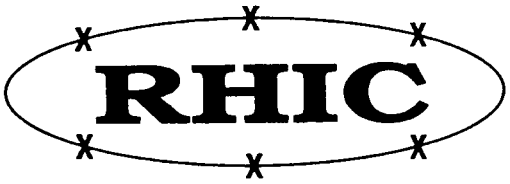
Description	*Disposition* RWK, RPR, UAI, SCP	*CE*	*DQAR*

Sketch:

(E11)

Instructions: *Continue on reverse side if required*	*Name*	*Life #*	*Date*
	(F1)		

Exhibit II



MAGNET DIVISION

ACTION REQUIRED

PER THIS DR NO. _____

NOTE: **Please review DR and complete work required**

or

contact Cognizant Engineer for further direction.